DOCUMENT RESUME

ED 463 568 EA 031 567

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TITLE	Tuition Tax Credits: What Do We Know So Far? Occasional Paper.
INSTITUTION	Columbia Univ., New York, NY. National Center for the Study of Privatization in Education.
REPORT NO	NCSPE-OP-33
PUB DATE	2001-09-00
NOTE	15p.
AVAILABLE FROM	For full text: http://www.ncspe.org/.
PUB TYPE	Reports - Descriptive (141)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	Cost Effectiveness; Educational Economics; Elementary Secondary Education; Private Schools; *Tax Credits; *Tuition

ABSTRACT

This paper reviews the economics of tuition tax credits (TTCs). TTCs can be described in terms of "finance" and "regulation." They allow individuals to spend money on education services and to offset at least a portion of that expenditure against their tax liability. There are few economic studies of tax credits, but they stress two questions: What is the loss/gain in revenues to the state? and Who benefits? There is some evidence on both these questions, and the evidence in the main points to the following answers: (1) state revenues fall; and (2) those who already have children in private schools are the largest group of beneficiaries. Discussion of the future for the specific federal TTC plan is highly speculative with political, economic, fiscal, and possible legal barriers that may affect future adoption of TTCs. The paper also looks at how to evaluate TTCs using a comprehensive framework. An appendix describes TTC schemes across six states. (Contains 14 references.) (RT)

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ED 463 568

Occasional Paper No. 33

National Center for the Study of Privatization in Education

Teachers College, Columbia University

Tuition Tax Credits: What do we know so far?

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September 2001

Abstract – This paper reviews the economics of tuition tax credits (TTCs). Such tax credits can be described in terms of 'finance' and 'regulation'. There are few economic studies of tax credits, but they stress two questions: (A) What is the loss/gain in revenues to the state? (B) Who benefits? There is some evidence on both these questions, and the evidence in the main points to the following answers: (a) state revenues fall; (b) those who already have children in private schools are the largest group of beneficiaries. This paper also looks at how to evaluate TTCs using a comprehensive framework.

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1. Introduction

This paper offers an overview of tuition tax credits (TTCs). These tax credits allow individuals to spend money on education services, and to offset all or a portion of that expenditure against their tax liability. These credits differ from tax deductions; the latter allow individuals to automatically deduct a sum from their declared taxable income. (Some states, such as Minnesota, have both education tax credits and tax deductions).

Education tax credits reduce the effective price of private education services. This raises the private demand for education. In order to effect this demand, new private supply (or in some cases new government supply) must be forthcoming. From both the demand and supply side of the equation, therefore, TTCs represent another way of creating private markets in education. The effect of a tax credit is to switch students from public school to private school.

As of summer 2001, there were tax credit programs in five US states (with one TTC only begun in the summer of 2001), and programs are proposed for New Jersey and even possibly at the Federal level. A Federal proposal would offer credits to a large group of parents, and so could have enormous impact – both in the amount of funding for education, but also the financing burden between Federal, State, and local jurisdictions. Its political future is being debated, but in the absence of much evidence either for or against. An overview of the tuition tax credit literature is therefore timely.

This brief overview: describes TTC designs; summarizes the economic research; and offers some cautions in interpreting this research. (A full review of the economics of TTCs – on which this overview is based – is given by Belfield and Levin, 2001).

2. Designing a TTC Plan

How to Describe a TTC

Tuition Tax Credits are a flexible education reform and can be described in terms of finance and regulation. How the plan is designed will make a difference to its impact. The financial and regulatory aspects of a TTC are given in Box 1.

BOX 1 Describing a TTC

The financial aspects of a TTC include:
(a) the maximum size of the credit and or proportion of tuition costs covered;
(b) the scope of earnings eligible; and
(c) whether the credit is means-tested and/or refundable.

The regulatory aspects include:
(i) who is eligible, i.e. whether the TTC applies to parents, other individuals, or businesses;
(ii) what specific educational services can be claimed as tax expenditures.

As currently designed, TTCs fall into two types: those where parents only are eligible; and those where others are eligible (e.g. businesses). Here, the direct focus is on the types of TTC that are available only to parents (the other type of TTCs – those open to other agents such as individuals and businesses – are discussed more briefly and raise different issues). Although these two types of TTC are separable – policy-makers choose who is eligible for a TTC – they are often bundled together for political reasons. The existing tax credit schemes are reviewed in Appendix Table 1.

Important Economic Aspects of TTCs

Policymakers set the eligibility of the tax credit, and its value (see Frey, 1983; West, 1985). Then, the key economic parameters of a TTC are given in Box 2. Values for each of these parameters have to be assumed.

BOX 2 Economic Parameters

(1) *Price of private schooling*: this price is what parents are claiming tax credit for
(2) *Elasticity of demand for private schooling*: this measures how much extra demand there will be for private schooling, when the tax credit is available
(3) *Elasticity of supply of private schooling*: this measures how many extra private school places will be forthcoming to meet the new demand
(4) *Costs of public schools*: this figure indicates how much expenditure will be saved when students move from the public to the private sector
(5) *Implementation and macro-costs of a TTC scheme*: these indicate how much it will cost to put a TTC into operation and to keep it running

After specifying values for the above parameters, and based on the numbers of students who switch into private schools, it is possible to calculate four important figures:

(A) Payments to existing private school parents who take up TTC

(B) Revenue gain to government from new switching to private school

(C) Net effect on government revenues from TTC [A minus B]

(D) Proportion of tax windfall going to private school parents [A divided by total tax exemption]

Item (C) gives the answer to the first of our questions – what is the effect of a TTC on state revenues? Item (D) gives the answer to the second of our questions – who benefits. We can now turn to the economic evidence for each of the parameters and the estimates of (C) and (D).

3. Modeling Tuition Tax Credits

Estimating the Key Parameters:

We begin with estimates of the Key TTC Parameters from Box 2.

(1) Price of Private Schooling: The price of private schooling in the US is around $3840 (year 2001 dollars, see NCES, 1995, Table 60 <http://nces.ed.gov>). However, this figure has a broad variance: many schools charge low fees, with the average being raised by a sub-set of high-fee (typically non-religious) private schools.

(2) Elasticity of Demand for Private Schooling: The price elasticity of demand is estimated to be between −0.19 to −3.35, although the most commonly cited figure is −0.48 and this is based on 1980 Census data (Chiswick and Koutroumanes, 1996).

(3) Elasticity of Supply of Private Schooling: The limited evidence on the elasticity of supply of private schooling suggests it is very low, although the range of estimates is from almost zero to 2.

(4) Cost of Public Schools: The average cost of public schooling in the US is $7080–$8180 (NCES, 2000). Again, however, this varies across student groups, across regions, and across urban/rural areas. Three variables are important here: (a) the cost reduction caused by switching; (b) the cost for those who do not switch; and (c) the taxpayer support for public funding, when more students are enrolled in private education. No solid evidence exists on any of these three variables.

(5) Implementation and Macro-system Costs: These costs are unknown, but will depend on how easy it is to implement and 'collect' the tax credit. Administration may be complex, along with high monitoring costs. TTCs raise the costs to taxpayers of interpreting the tax code.

First important question: What is the effect of a TTC on state revenues?

Several impact studies have been undertaken for TTCs. Each of these impact studies can be described in terms of economic parameters (see Belfield and Levin, 2001). For the net cost to the government, the results suggest that such TTCs reduce government revenues:

- For a Federal TTC of $500, Frey (1983) predicts a net loss in revenue of $0.77 billion (using 2001 prices, the respective figures would be T = $1200 and $1.89 billion).
- For their Federal TTC of $500, Olsen et al. (2001) finds a net loss of $0.62 billion.
- For a Federal TTC of 10% of per-pupil expenditures Longanecker (1983) predicts a net loss of $1 billion.
- For the New Jersey TTC worth $650, Bast (2001) finds a revenue loss of $111 million.

Finally, for a Federal TTC of $300, West (1985) adopts a different approach, to identify how much switching is necessary to effect a break-even TTC. In a subsequent simulation, Martinello and West (1988) identify the number of switchers needed to optimize government gains, which yields $130 million in revenues ($355 million in 2001 dollars). Although Frey (1991) rebuts these figures. Overall, the effect seems strongly to point to a reduction in state revenues.[1]

[1] The National Center for Policy Analysis (NCPA, 2001) map out the fiscal effects of TTCs of $1200 for three high-spending cities. For Washington, DC, assuming a transfer of 5% of public school students to private schools, the net gain to government revenues is $11 million (1.9% of the total budget), but the target efficiency is 35.0%. Under the same assumptions, for New York City the net gain is $62 million (0.7%), and the target efficiency is 20.0%. For Philadelphia, the net *loss* is $15.6 million (1.2%), and the target efficiency is 14.6%.

Second important question: Who benefits from a TTC?

The answer to this question depends on how much of the transfer in resources actually flows to those people who are the intended beneficiaries, as against how much resource is a windfall gain to those already enrolled in private schooling. This measure – called 'target efficiency' – is critical for assessing the political feasibility and the equity of such schemes. Again, the simulations are reasonably consistent:

- Frey (1983, 95) estimates that TTCs score very poorly on 'target efficiency': only 12–13% of total transferred ('lost') government revenues would go to those who newly switched school.
- Both West (1985) and Olsen et al. (2001) find that target efficiency is low, at no more than 15%.
- Longanecker (1983) estimates 60% of benefits from a federal TTC going to families above median income.
- The target efficiency of the New Jersey parent-eligible proposal (Bast, 2001) is extremely low, with less than 5% of total revenues going to newly switching students.

So, TTCs appear to benefit those already in private school, and probably then benefit those with relatively high incomes in public schools. (To offset this compounded regressivity, TTCs can of course be designed for low-income families or bundled with a TTC scheme that has open-eligibility).

However, it is worth noting some of the sensitivities to these simulations. Particularly sensitive are the assumptions made about the elasticity of supply and about the costs of public schooling (in that the average cost may not be a good measure of the marginal cost).

4. Evaluating Tuition Tax Credits

To assess education policies, Levin (2001) proposes an evaluative framework with four criteria: freedom of choice; productive efficiency; equity; and social cohesion. This framework can be applied to TTCs.

Freedom of Choice TTCs may raise the amount spent on education by parents and expand freedom of choice across different school types. Such freedom of choice may be valued in and of itself.

Productive Efficiency By expanding choices, and encouraging competition between providers, the productive efficiency of education enterprises may be enhanced.

Equity TTCs may generate greater segregation across schools. Many low-income families do not pay net taxes (with such credits simply serving as a tax loophole, i.e. wealth transfer, for higher income families). Where the TTC is available to parents who paid for private schooling, then funding may be inequitable, at least given current tax rates. Where demand and supply elasticities differ across groups by socio-economic status, then there will be equity implications: lower socio-economic groups may be less likely to take advantage of the tax credit. Also, tax credits reduce government revenues and the scope for government regulation, thus circumscribing opportunities for redistributive policy. Finally, the deferred-payment component of TTCs may lower expenditures. As they are typically claimed at the end of a tax year (and after purchases have been made), the tax credit reimbursement deferment is borne by the tax claimant. If individuals apply a positive

discount rate, a nominally equivalent TTC may be regarded as of lesser value than publicly provided education. This deferment effect may hit lower income families more strongly. For an assessment of the equity of TTCs, see Wilson (2001).

Social Cohesion TTCs may allow for differentiated provision that would undermine a common experience of schooling and possibly create social partitioning and polarization. Social cohesion may also be undermined if TTCs do not function effectively: low elasticity of supply may lead to rents for producers, to corruption, and to distortion of other decisions (e.g. forcing people to reside in the region to qualify for the TTC). These consequences may also have a detrimental effect on social cohesion, by undermining general views about the role of government. In rebuttal, TTCs that encourage funding of education by outside agencies such as businesses may positively affect social cohesion.

5. The Future for Tuition Tax Credits

The future of TTCs within the Federal Education Bill is as yet undecided, with substantial political trading still to take place. Discussion of the future for the specific Federal TTC plan is nonetheless highly speculative, and there are some barriers that may affect future adoption of TTCs:

- First, there are political barriers. TTCs transfer control of education decisions from government – and from special interests that influence government – to parents. TTCs also partly transfer control of education decisions to different agencies within government. Those in control are likely to oppose reform: where they can mobilize opposition more easily than parents can mobilize support, then TTCs may be politically stalled (e.g. with vouchers).
- Second, there are economic fiscal barriers. Government revenues may be substantially affected by such credits, and such TTCs may be costly to implement.
- Third, there are possible legal barriers – these have stalled voucher reforms. Yet, TTCs may be relatively legally innocuous (Kemerer, 2001). Tax credits relate to private money and therefore do not immediately fall foul of the Establishment Clause of the Constitution.

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Appendix Table 1
Tuition Tax Credit Schemes across the States

	ILLINOIS	IOWA	MINNE-SOTA	ARIZONA		PENN-SYLVANIA	NEW JERSEY	
	TTC	TTC	Tax Credit	Private School TTC	Public School Tax Credit	Open TTC	Parental TTC	Open TTC
Date initiated	1999	1998	1997	1997		2001	Proposal	
FINANCE								
Amount of tax credit per:								
Family	$500 (up to 25% of tax liability)	$250 (for $1000 expenses)	$2000[a] + $200	–	$200	–	$500 + $150[b]	–
Student	–	–	$1000[a]	–	–	–	–	–
Taxpaying individual	–	–	–	$500	–	$1000	–	$10000
Taxpaying business	–	–	–	–	–	$1000	–	10% of total tax liability
Refundable for zero expenditure	No	No	Yes	No	No	No	No	No
Means tested	–	No	For incomes <$37500	No	No	No	No	–
REGULATION								
Legitimate expenses:								
Tuition	Yes	Yes	No	Yes (for others)	No	Yes	Yes	Yes
Educational materials (e.g. computers)	Yes	Yes	Yes	Yes (for others)	No	Yes	Yes	Yes
Other forms of schooling	Yes	Yes	Yes	Yes (for others)	Yes, extra-curricular activities only	Yes	Yes	Yes
Agencies to redeem credits	Public, independent, religious schools	Independent schools	Public, independent, religious schools	Tuition organizations	Public schools	Tuition organizations	Public, independent religious schools	Tuition organ-izations[d]

Notes: [a] Eligibility is per family or per student. [b] $500 for tuition expenses equal to 50% of qualified expenses; $150 for computing supplies. [c] $10000, or not >75% of total charitable contributions. [d] These tuition organizations must devote at least 66% of total expenditures to scholarships at private schools for low-income families.

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